

**JUN 05 2008****REMARKS**

By this amendment, claims 1, 3, and 6 are revised to place this application in condition for allowance. Currently, claims 1, 3, 5-7 and 18 are before the Examiner for consideration on their merits.

Claims 1 and 6 are revised to clarify that the water is supplied to the inside surface of the side wall of the cup, that the heating device is brazed to the outside surface of the wall, and the temperature sensor is brazed to the inside surface of the thin side wall. Claim 18 already defines the location of the thermocouple on an inside wall of the cup so that no revision to this claim is required. With the revisions to claims 1 and 6, each of the independent claims is consistent in terms of the location of the temperature sensor/thermocouple. Claim 3 is revised to further define the nature of the thermocouple.

Turning now to the rejection, claim 1 stands rejected under 35 U.S.C. § 103(a) based on the United States Patent No. 2,490,547 to Schraner et al. (Schraner) when taken in view of United States Published Patent Application No. 2004/0004299 to Glucksman and United States Patent No. 5,350,901 to Iguchi et al. (Iguchi). Claims 6 and 18 are further rejected using the teachings of Morgandi.

For claim 1, the Examiner alleges that Schraner teaches the claimed steam generator but for the stainless steel construction and location of the heating device and temperature sensor. Iguchi is cited to contend that using stainless steel as a material of construction in the Schraner apparatus is obvious.

Admitting that the arrangement of the heating device and temperature sensor are not disclosed in Schraner, the Examiner cites Glucksman to teach a steam on demand

generator that has a cup and a temperature sensor attached to the cup in the same fashion as that claimed. The Examiner also alleges that the heating device of Glucksman contacts the cup. The Examiner concludes that it would be obvious to employ a temperature sensor in Schraner and, further, alleges that it would be obvious to "contact the heating device and an end portion of the temperature sensor to the side wall of the cup by a method of brazing in order to ensure good heat transfer and accurate temperature measurement as exemplified by Glucksman as well."

For claim 18 and the requirement that the temperature sensor is on the inside wall of the cup, the Examiner admits that this feature is absent from both Schraner and Glucksman, and cites Morgandi to allege that it is known to mount a temperature sensor on the inside of the wall of a steam generator. With Morgandi, the Examiner concludes that it would be obvious to modify the apparatus of Schraner such that the temperature sensor is located on the inside wall of the cup.

Since claims 1 and 6 have been revised to parallel the limitations of claim 18 with regard to the placement of the temperature sensor, it is submitted that the rejection based only on Schraner, Iguchi, and Glucksman is overcome. Therefore, the rejection as applied against claim 18 is now believed to be applicable to claims 1 and 6.

Applicants traverse the rejection of claims 1, 6, and 18 on the grounds that the Examiner has not established a *prima facie* case of obviousness. The reasoning supporting the rejection is three fold. First, the combination of Schraner and Glucksman is improper on its face and, in fact, there is no reason to modify Schraner in the manner alleged in the rejection. Secondly, Glucksman does not teach the temperature sensor mounting arrangement. Third, the reliance on Morgandi is also misplaced to contend

that there is a reason to place a temperature sensor in Schraner in the manner of the invention. What the Examiner has done in this rejection is separated the invention into individual components, searched the prior art to show that the individual components are known, and then concluded that they can be put together in a manner that produces the steam generator of claim 1. This approach is clearly improper as lacking the requisite reasoning for assembling the various prior art features together. This is particularly so given the fact that the various prior art references are completely unrelated to each other with these differences being summarily ignored when the references are cobbled together to make the rejection.

Schraner and Glucksman are improperly combined.

In a first aspect of the rejection, the Examiner concludes that it would be obvious to substitute the heating of Schraner with the heating of Glucksman and use a temperature sensor as taught by Glucksman. It is respectfully submitted that there is no legitimate reason for the heating substitution alleged in the rejection. Schraner teaches an apparatus that specifically provides heating wires 14 in the path of the water being ejected from nozzle 4. This is the very essence of the steam generation of Schraner, direct contact of water with the heating wires to both prevent the wires from overheating and to generate steam.

Glucksman teaches an entirely different apparatus, which is a humidifier that has a steam generator. In Glucksman, water comes into contact with a heated dome, wherein steam is generated. The dome is heated from beneath and temperature is sensed from beneath the dome.

While it is true that Glucksman discloses a heating coil in contact with an inside of the dome, the issue of obviousness concerning claims 1, 6, and 18 is not resolved by the mere arrangement of Glucksman. The question of obviousness is whether one of skill in the art would be led to modify the heating wires of Schraner such that they would be disposed on the outside of the cup of Schraner. In the rejection, the Examiner says that one of skill in the art would find it obvious to contact the heating device to the side wall of the cup of Schraner in order to ensure good heat transfer and accurate temperature measurement as exemplified in Glucksman. While it may be true that contact between the heating coil of Glucksman and the dome provides efficient heat transfer, this is in the context of heating a body of water by contact between the heated dome and the water. This has nothing to do with the operation of Schraner, which requires a direct contact between the water and the heating wires.

Moreover, claims 1, 6, and 18 now require that the heating device is on the outside of the cup and the temperature sensor is on the inside of the cup. This creates another issue of obviousness that must be addressed herein. That is, the Examiner must not only conclude that the heating coil arrangement of Glucksman can be used in Schraner, it must also be concluded that the heating coil would be used on the outside of the chamber of Schraner. This modification runs squarely against the teachings of Schraner and the requirement that the water directly contact the heating wires. Schraner teaches away from such a modification.

Therefore, given that the heating techniques of Schraner and Glucksman are fundamentally different, it is pure speculation on the Examiner's part to say that one of

skill in the art would replace the direct heating technique of Schraner with an indirect heating technique as suggested by Glucksman.

The Examiner is employing hindsight to formulate the rejection in terms of the placement of the heating device of the claims. The mere fact that Glucksman teaches an indirect heating technique does not, by itself, lead to the stated conclusion of obviousness. Applicants are not claiming to be the first to braze a heating coil to a cup, nor the first to use a temperature sensor in the context of steam generation. The issue of obviousness is more complex in terms of the interaction of all of the claimed steam generator components, and it is these elements in combination that leads to a patentable invention.

Since Schraner teaches away from using the heating coil on the outside of the steam chamber, this teaching away is further substantiation that the prior art of Schraner and Glucksman cannot be combined and a *prima facie* case of obviousness is not established.

Since the modification of Schraner is with the reasoning required to support a rejection under 35 U.S.C. § 103(a) and the proposed modification using Glucksman goes directly against the intent of Schraner, the rejection of claims 1, 6, and 18 is improper and should be withdrawn.

Glucksman does not teach the temperature sensor arrangement.

A second reason why the rejection is improper is that Glucksman does not teach the claimed arrangement of the temperature sensor. In the rejection, the Examiner asserts that an end portion of the thermostat/sensor 81 contacts the dome, with a side

tip directly contacting the side wall, and the tip end is exposed. The Examiner does not point to any specific disclosure of Glucksman to support this allegation. In fact, Glucksman provides little detail regarding the thermostat 81. Paragraph 54 of Glucksman provides the description of the thermostat 81. The thermostat 81 is supported by the plate 75. While Glucksman says that the thermostat 81 is "located near the top of the first body 61", the Examiner interprets this to mean that the thermostat is in contact with the first body. There is no written disclosure in Glucksman to support this interpretation.

Glucksman does teach that the thermostat senses the rise in temperature of the aluminum body 61, but says nothing about an end portion, or a side of the thermostat. If anything, the disclosure that the thermostat is near the body 61 indicates that there is no direct contact. Figure 4 of Glucksman reveals a space between the top of the thermostat 81 and the underside of the body 61, and this further substantiates the contention that the Examiner impermissibly interpreting Glucksman to teach features not disclosed.

Moreover, each of claims 1, 6, and 18 requires a brazed connection between the cup and the temperature sensor. Where is this feature in Glucksman? Again, Glucksman does not require a direct contact so why would one employ a brazed connection between the body 61 and thermostat 81.

In the rejection, the Examiner points to "good heat transfer" and "accurate temperature measurement" as reasons for brazing of the thermostat. While Glucksman does suggest that brazing be done for the heating coil for good heat transfer, this is in the context of heating, not temperature measurement. Applicants submit that the

Examiner is speculating that this statement extends to the connection between the thermostat 81 and the body 61. It should be noted that while Glucksman makes a particular point to teach that the coil should be brazed to the body 61, no such suggestion is made regarding the thermostat. As mentioned above, Glucksman does not even mandate that the thermostat be in direct contact by describing its placement as "near the top of the body 61."

Applicants submit that it is error to interpret Glucksman to teach a brazed connection between the thermostat 81 and body 61 when there is no factual basis to draw this conclusion and this error taints the rejection of claims 1, 6, and 18. It is also error to contend that the specific attachment arrangement of the sensor to the wall of the cup is taught in Glucksman when there is no disclosure, express or implicit to support this contention.

Reliance on Morgandi to further modify Schraner/Glucksman apparatus improper.

A third flaw in the rejection is the reliance on Morgandi to formulate the rejection under 35 U.S.C. § 103(a). Morgandi teaches yet another type of steam generator, wherein a boiler containing a heating element is filled with water to generate steam for an iron. The heating element 7 includes a temperature sensor 12 that is attached to the element 7 at the highest point in the boiler. The temperature sensor senses an increase in temperature as a result of the heating element being exposed to air (not enough water in the boiler). At this point, a pump 3 is activated to supply more water to the boiler so that the heating element is immersed in water for steam generation.

In the rejection, the Examiner contends that since Morgandi discloses a temperature sensor that extends into a boiler, one of skill in the art would use the same configuration for the temperature sensor used in Schraner, and arrive at the claimed steam generator. The reasoning for this modification is that the temperature of the water inside the cup can be monitored and more water can be added if necessary as is exemplified by Morgandi.

The problem with this reasoning is that Schraner does not use a body of water for steam generation. Therefore, why would one of skill in the art use the temperature sensing arrangement of Morgandi in Schraner? Moreover, Morgandi requires that the temperature sensor be in contact with the heating element. In contrast, the claims require that the heating element is on the outside of the cup and the temperature sensor is on the inside of the cup. It is not seen how Morgandi's teachings can be used in the modified Schraner apparatus, when this modified apparatus is not even remotely similar to the Morgandi steam generator.

As with the combination of Schraner and Glucksman, the Examiner is picking select features of the prior art to generate the required claim limitations without the necessary reasoning to do so. In fact, one of skill in the art would not look to Morgandi to modify the Schraner apparatus, and the rejection relying on Morgandi is flawed and must be withdrawn.

#### Claims 3 and 18

Claim 3 is revised to further clarify the attachment of the sensor to the wall by specifying a longitudinally-disposed side being attached. This manner of attachment is



not found in either Glucksman or Morgandi. In Glucksman, the longitudinally-disposed side of the thermostat 81 contacts the plate 75 not the body 61. In Morgandi, the stainless steel tube 12C is welded at its end to the wall 5B of the boiler. Neither of these temperature sensor configurations can be considered to be the same as the arrangement of claim 3. Since the prior art fails to teach or suggest the features of revised claim 3, this claim is separately patentable.

Claim 18 also includes the feature that the location of the brazed temperature sensor is the location that receives the spray from the nozzle. None of the prior art teaches this concept. In Schraner, there is no temperature sensor. In Glucksman, the temperature sensor is not in contact with any water used for steam generation. In Morgandi, there is no spray of water directed at the temperature sensor. Since the prior art of Schraner, Glucksman, and Morgandi each lacks the feature of claim 18 regarding the interplay between the water and location of the temperature sensor, even if these references were combined, the features of claim 18 are still not present. Thus, claim 18 is patentable over the prior art regardless of the Examiner's view regarding claims 1 and 6.

#### SUMMARY

To review, the Examiner has combined three steam generating references: one that uses a water spray directly impacting heating wires (Schraner); one that uses a heated dome that is in contact with a body of water for steam generation and uses a temperature sensor that is outside the steam generating chamber for monitoring the presence of water in contact with the dome (Glucksman); and one that has a boiler

(steam generating chamber) designed to be filled with water, the boiler including a heating element and temperature sensor within the boiler for steam generation; to allege that the invention as defined in each of claims 1, 6, and 18 is obvious.

The invention involves a steam chamber that uses a spray intended to contact the side wall of the chamber, a specially placed temperature sensor, and a heating device on the outside of the wall. This particular arrangement provides a number of improvements over prior art steam on demand generators as explained on page 6, line 13 to page 7, line 3, and page 11, line 10, to page 12, line 11 of the specification.

To arrive at the invention, the Examiner must change the fundamental nature of Schraner by first moving the heating wires to the outside of the chamber. Then, the Examiner, after contending that Schraner could employ a temperature sensor given Glucksman, concludes that the temperature sensor can be mounted on the inside of the chamber, in spite of the indirect temperature sensing and heating of Glucksman. The placement of the temperature sensor to satisfy the claim limitations is also predicated on a system (Morgandi) that does not use a spray but heats a body of water for steam generation, whereby the heating element and temperature sensor are inside the chamber, and the temperature sensor is required to be in contact with the heating element to determine if the heating element is submerged.

What is evident from this is that the invention cannot be gleaned from the teachings of Schraner, Glucksman, and Morgandi, and a *prima facie* case of obviousness is not established by these references, notwithstanding the teachings of Iguchi. Thus, claims 1, 3, 6, and 18 are separately patentable over the applied prior art. The remaining dependent claims are allowable by reason of their dependency.

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Accordingly, the Examiner is requested to examine this application and pass all pending claims onto issuance.

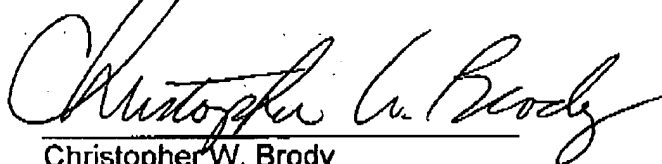
If the Examiner believes that a further interview would be helpful in expediting the allowance of this application, the Examiner is requested to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the Office Action dated February 5, 2008.

Again, reconsideration and allowance of this application is respectfully requested.

A petition for a one month extension of time is made. Please charge Deposit Account No. 50-1088 the amount of \$60.00. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,  
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